(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/047761 A1

(51) International Patent Classification[7]: F17C 1/00, 5/04, 5/06, 13/02, F25J 1/02, B63B 25/14, B63J 2/14

(21) International Application Number:
PCT/NO2004/000342

(22) International Filing Date:
11 November 2004 (11.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20035047 13 November 2003 (13.11.2003) NO

(71) Applicant (*for all designated States except US*): **HAMWORTHY KSE GAS SYSTEMS AS** [NO/NO]; Solbråveien 10, N-1383 Asker (NO).

(72) Inventor; and
(75) Inventor/Applicant (*for US only*): **RUMMELHOFF, Carl, Jørgen** [NO/NO]; Veverbakken 157, N-1536 Moss (NO).

(74) Agent: **LANGAN, Hans**; Zacco Norway As, P.O. Box 765, Sentrum, N-0106 Oslo (NO).

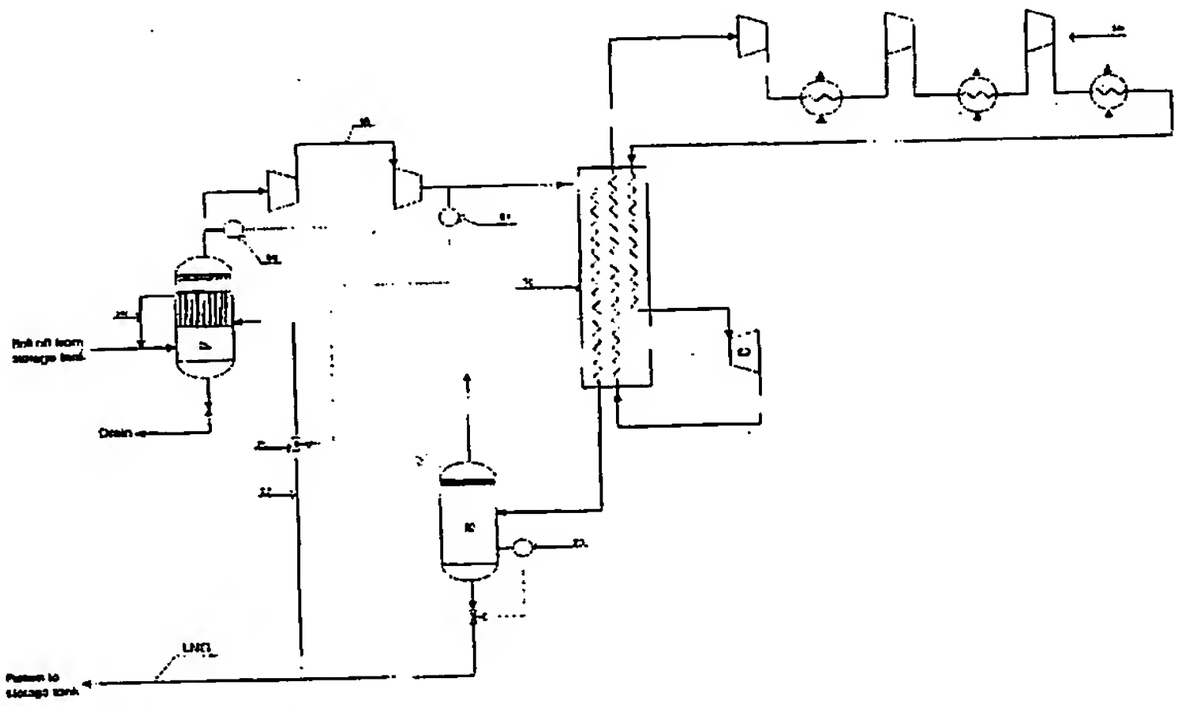
(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD FOR CONTROLLING TEMPERATURE IN A BOIL-OFF GAS



(57) Abstract: An apparatus and method for controlling temperature in a boil-off gas in a liquefaction plant prior to compression, wherein boil-off gas originating from an LNG storage tank is compressed and at least partially condensed, and wherein said condensed boil-off gas (LNG) is being returned to the storage tank. A heat exhanger (20) is connected to the boil-off gas feed line upstream of the compressor (10), and a first conduit (22) fluidly connects the line for returning LNG to the storage tank and the heat exchanger (20). A second conduit (26) fluidly connects the heat exchanger (20) to the boil-off gas feed line at a point upstream of said heat exchanger (20). Boil-off gas is heat exchanged against said cooler (24) prior to being fed into said compressor (10). Thus, the boil-off gas temperature is lowered downstream of said heat exchange. With the present invention, a selected temperature or range of temperatures - for example determined by the compressor characteristics - may be used as a controlling parameter for the choke valve in order to control the flow through the cooler and into the boil-off gas feed line upstream of the heat exchanger.

WO 2005/047761 A1